In the Claims:

Claims **1 to 18** (Canceled).

19. (Currently amended) Milling method for the production of a structural ~~components from materials that are difficult to machine by chip cutting,~~ component from a material, while producing ~~depressions~~ a depression with at least one sidewall, ~~especially for the production of integral bladed rotors for gas turbines, whereby the depressions especially form flow channels and the sidewalls especially form blade surfaces,~~ whereby a milling tool having a tool radius is rotationally driven about an axis of the milling tool ~~in order to ensure~~ to carry out a central rotation thereof, whereby a reference point of the milling tool ~~preferably~~ lying on [[~~the~~]] an axis of the milling tool is moved on several curved paths, whereby the paths ~~preferably~~ respectively comprise different curvatures, and whereby the milling tool is moved with a radial miller feed relative to the material on the paths, characterized in that, after reaching a maximum permissible circumferential contact of the milling tool with the material, [[~~that~~]] the curvature [[~~in~~]] at each path point of each path is determined dependent on the tool radius of the milling tool, the depression to be milled, and a milling contour of an immediately previously followed one of the paths, in such a manner so that ~~in~~ at each path point the circumferential

contact of the milling tool with the material is optimized to [[a]] the maximum permissible circumferential contact.

20. (New) Method according to claim 19, characterized in that the curvature at each path point of each path is determined in such a manner that for each path point the maximum permissible circumferential contact of the milling tool with the material is not exceeded.

21. (New) Method according to claim 19, characterized in that at a beginning of each path, the milling tool is moved into the material to be milled in such a manner, so that a path vector of the milling tool extends in a tangential direction tangent to the sidewall of the depression that is to be milled-out, and that the milling tool is moved into the material in the tangential direction so long until the maximum permissible circumferential contact of the milling tool with the material is reached.

22. (New) Method according to claim 21, characterized in that, after reaching the maximum permissible circumferential contact, the path vector of the milling tool is adjusted so that at each subsequent path point in a main milling portion of the path the maximum permissible circumferential contact of the milling tool is maintained.

23. (New) Method according to claim 22, characterized in that the maximum permissible circumferential contact of the milling tool is maintained at each subsequent path point of the path up to and except for an exit region of the milling tool out of the material.

24. (New) Method according to claim 19, characterized in that a translational feed advance motion of the reference point of the milling tool providing the radial miller feed is superimposed on a motion of the reference point of the milling tool along the curved paths and the central rotation of the milling tool about the axis.

25. (New) Method according to claim 24, characterized in that the translational feed advance motion of the reference point of the milling tool occurs on a straight and/or curved feed advance path.

26. (New) Method according to claim 24, characterized in that a pivoting motion of the axis of the milling tool for producing a wobbling motion with a variable tilt of the axis is superimposed on the motion of the reference point of the milling tool along the curved paths, the central rotation of the milling tool about the axis, and the translational feed advance motion of the reference point of the milling tool.

27. (New) Method according to claim 26, characterized in that for superimposing the pivoting motion, the axis of the milling tool is periodically pivoted about a point in the area of a miller tip of the milling tool.

28. (New) Method according to claim 19, characterized in that the motion of the milling tool along the curved paths and the central rotation thereof are carried out respectively with opposite rotation directions.

29. (New) A method of milling a material to produce a milled structural component, said method comprising the steps:

a) rotating a milling tool about a tool axis of the milling tool; and

b) while the milling tool is rotating, advancing the milling tool successively along plural successive milling paths in the material so as to mill a depression into the material by cutting chips from the material with the milling tool;

wherein:

each one of the successive milling paths respectively has a respective beginning portion, a respective curved main milling portion, and a respective exit portion in succession,

the respective curved main milling portions of the successive milling paths respectively have different curvatures relative to one another,

in the beginning portion of each respective one of the milling paths, the milling tool is advanced into the material beginning from a zero value of a circumferential contact between the milling tool and the material, up to a maximum value of the circumferential contact,

in the main milling portion of each respective one of the milling paths, the respective curvature thereof is determined so that the milling tool is advanced along the respective main milling portion while maintaining the maximum value of the circumferential contact between the milling tool and the material, and

in the exit portion of each respective one of the milling paths, the milling tool is withdrawn from the material while reducing the circumferential contact between the milling tool and the material from the maximum value to the zero value.

30. (New) The method according to claim 29, further comprising predetermining the maximum value of the circumferential contact as a greatest value of the circumferential contact for which the chips cut from the material are surely removed from the depression.

31. (New) The method according to claim 29, comprising determining the respective curvature of the main milling portion of each respective one of the milling paths dependent on a tool radius of the milling tool, a contour of the depression, and the curvature of the main milling portion of an immediately preceding one of the milling paths along which the milling tool advanced immediately preceding the respective one of the milling paths.

[RESPONSE CONTINUES ON NEXT PAGE]